

WHAT IS CLAIMED IS:

1. A vehicle lock controller installed in a vehicle having a plurality of doors to control locking of the doors through communication with a portable device, the vehicle lock controller comprising:

a plurality of transmitting circuits, each provided in association with a corresponding one of the doors to output a request signal and request the portable device to transmit a response signal; and

a control unit connected to the transmitting circuits to intermittently output the request signal from each of the transmitting circuits at a predetermined cycle, wherein when receiving the response signal from the portable device, the control unit unlocks the door corresponding to the transmitting circuit that outputs the request signal to which the response signal is transmitted in response, the control unit determining a priority order of the transmitting circuits to set the predetermined cycle of the request signal output from each transmitting circuit in accordance with the priority order.

2. The vehicle lock controller according to claim 1, wherein the control unit shortens the predetermined cycle of the request signal in transmitting circuits having a higher priority.

3. The vehicle lock controller according to claim 1, wherein the control unit determines the priority order of the transmitting circuits based on how often each door is used and shortens the predetermined cycle of the request signal in transmitting circuits corresponding to doors that are often used.

4. The vehicle lock controller according to claim 1,
wherein the control unit decreases an output intensity of
the request signal in transmitting circuits having a lower
5 priority when a voltage value of a battery installed in the
vehicle becomes lower than a predetermined threshold value.

5. The vehicle lock controller according to claim 1,
wherein the control unit decreases a ratio of a total output
10 time of the request signals in a predetermined time when a
voltage value of a battery installed in the vehicle becomes
lower than a predetermined threshold value.

6. The vehicle lock controller according to claim 5,
15 wherein the control unit stops outputting the request signal
from transmitting circuits having a lower priority when the
voltage value of the battery becomes lower than the
threshold value.

20 7. A vehicle lock controller installed in a vehicle
having a plurality of doors to control locking of the doors
through communication with a portable device, the vehicle
lock controller comprising:

a plurality of transmitting circuits, each provided in
25 association with a corresponding one of the doors to output
a request signal and request the portable device to transmit
a response signal; and

a control unit connected to the transmitting circuits
to intermittently output the request signal from each of the
30 transmitting circuits at a predetermined cycle, wherein when
receiving the response signal from the portable device, the
control unit unlocks the door corresponding to the
transmitting circuit that outputs the request signal to

which the response signal is transmitted in response, the control unit detecting how often each door is used and stopping the output of the request signal from transmitting circuits that are seldom used when a voltage value of a battery installed in the vehicle becomes lower than a predetermined threshold value.

8. A method for controlling locking of a plurality of doors for a vehicle through communication with a portable device, the vehicle including a plurality of transmitting circuits, each provided in association with a corresponding one of the doors to output a request signal and request the portable device to transmit a response signal, the method comprising the steps of:

intermittently outputting the request signal from each of the transmitting circuits at a predetermined cycle;

when receiving the response signal from the portable device, unlocking the door corresponding to the transmitting circuit that output the request signal to which the response signal is transmitted in response;

setting the priority order of the transmitting circuits; and

setting the cycle of the request signal output from each transmitting circuit in accordance with the priority order.

9. The method according to claim 8, wherein the step for setting the cycle of the request signal includes shortening the predetermined cycle of the request signal in transmitting circuits having a higher priority.

10. The method according to claim 8, wherein the step of setting the priority order includes:

detecting how often each door is used; and
determining the priority order of the transmitting
circuits based on how often each door is used.

5 11. The method according to claim 10, wherein the step
of setting the priority order includes shortening the
predetermined cycle of the request signal in transmitting
circuits corresponding to doors that are often used.

10 12. The method according to claim 8, further
comprising the step of:
decreasing an output intensity of the request signal in
transmitting circuits having a lower priority when a voltage
value of a battery installed in the vehicle becomes lower
15 than a predetermined threshold value.

13. The method according to claim 8, further
comprising the step of:
decreasing a ratio of a total output time of the
20 request signals in a predetermined time when a voltage value
of a battery installed in the vehicle becomes lower than a
predetermined threshold value.

14. The method according to claim 13, wherein the step
25 for decreasing a ratio of a total output time includes
stopping output of the request signal from transmitting
circuits having a lower priority when the voltage value of
the battery becomes lower than the threshold value.